

FACE INVESTIGATION

SUBJECT: Farmer Dies After Being Pinned Under Overturned Tractor

SUMMARY: A 92-year-old male farmer (the victim) died after the tractor he was driving overturned and he was pinned under the seat. He had been using the tractor with a front bucket loader to grade the driveway on his property. The victim was backing the tractor into the driveway when the rear wheel went into the ditch and the tractor overturned, pinning him under the tractor seat. The tractor was not equipped with a rollover protection structure (ROPS). His daughter and her husband witnessed the event, but it happened too quickly for their warnings to prevent the overturn. The daughter ran to the house and called 911, while her husband went to a neighbor's farm to get a tractor. The son-in-law returned to the scene within ten minutes, at about the same time as the emergency services vehicles. The EMS used air bags to raise the tractor enough to remove the victim from under the tractor. The ambulance transported him to the local hospital, then he was flown to a regional medical facility where he died two weeks later. To prevent future fatalities of this type, the FACE investigator recommends farm tractor owners and operators should:

- ! avoid using tractors that are not fully equipped with rollover protective structures (ROPS)**
- ! evaluate the terrain prior to beginning an operation with a tractor, and mark hidden hazards for visibility**

INTRODUCTION:

On March 25, 1999, a 92-year-old male farmer died after being pinned under an overturned tractor. The Wisconsin FACE field investigator was notified by the Wisconsin Department of Industry, Labor & Human Relations, Workers Compensation Division, on May 28, 1999. On July 26, 1999, the field investigator visited the site and met with the victim's daughter and son-in-law. The FACE investigator also obtained the death certificate and the coroner and sheriff's reports.

The farmer emigrated alone from Europe at age 13, and began working as a farm worker at age 14. He purchased a dairy farm about 60 years ago, and was recognized by land conservation experts as a leader in development of contour farming techniques. He discontinued full-time dairy farming after the death of his wife, but maintained a tractor and some equipment to use on his 40-acre site.

Most safety information used on the farm was gained by on-the-job training. Additional information was obtained at fairs, farm equipment shows, and farm organization meetings. The farmer was a member of the Farm Bureau, active in the Holstein Dairy Herd Improvement Association, and hosted international students who learned American farming techniques. He had been involved in hazardous events in his farming activities, including being struck by lightening and a fall from a hay elevator. None of these incidents caused serious or permanent injury to himself or anyone else on the farm. He occasionally used a cane to walk outdoors, but was able to climb on and off equipment without difficulty. About a year before the incident, he underwent eye surgery and wore eyeglasses to correct his vision.

INVESTIGATION:

The property consisted of a yard with a workshop, equipment storage buildings, a residence, and 40 acres of additional open and wooded areas. A driveway (approx .2 mile long) leads from the county road to the yard.

The road was about 19 feet wide, with about 45E slope on the ditches on both sides. A 12-foot wide gravel-covered driveway extended 22 feet from the edge of the road to two stone gateposts on the perimeter of the property. A metal culvert ran under the driveway in the center of the ditch, but was partially hidden from view on both sides by vegetation and soil. Weather conditions on the day of the incident were sunny and dry. The 55-year-old tractor involved in the incident was purchased by the farmer over 50 years ago, and was not equipped with ROPS. It had air-filled rear tires, and narrow set front wheels and a bucket loader.

At about 2:15 PM on the day of the incident, the farmer was leveling the grade on the driveway, using the blade on the front end loader to scrape the elevated areas. His daughter and son-in-law were at the site to assist with outdoor chores and pick up firewood for their home from his woodlot. The victim made at least one scraping pass along the length of the driveway. When he reached the road end of the driveway, he began maneuvers to turn the tractor around to make a return trip. He started to back the tractor from the far side of the road onto the driveway, but apparently misjudged his position and came close to the culvert edge. The right rear tire slipped off the culvert, causing the tractor to go into the ditch and completely overturn sideways. The victim stayed in the tractor seat, but he was pinned between the seat and the ground. His daughter and her husband witnessed the event, but it happened too quickly for their warnings to prevent the overturn. The daughter ran to the house and called 911, while her husband went to a neighbor's farm to get a tractor. The son-in-law returned to the scene within ten minutes, at about the same time as the emergency services vehicles. The EMS used air bags to raise the tractor enough to remove the victim from under the tractor. The ambulance transported him to the local hospital, then he was flown to a regional medical facility where he died two weeks later.

CAUSE OF DEATH: The coroner's report listed the cause of death as a CVA that was a consequence of multiple trauma from a farm tractor rollover.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Farm tractor operators should avoid using tractors that are not equipped with rollover protective structures (ROPS) on hilly, uneven or sloping terrain.

Discussion: The tractor in this incident was manufactured in 1955. Commercial ROPS are not available to retrofit a tractor of this vintage, and the tractor's structure makes it infeasible to have one custom-made by an equipment dealer or manufacturer. When a tractor without ROPS must be operated, it should remain on level ground, with no elevated load and only at a very slow speed.

Note: The victim's family intends to sell the tractor to an antique tractor collector.

Recommendation #2: Farm tractor operators should evaluate the terrain prior to beginning an operation with a tractor, and mark hidden hazards for visibility.

Discussion: The culvert under the driveway had been in place for many years, and was obscured from view by old vegetation and soil mounds. The farmer's vision may also have been a factor in this case, with possible decrease in depth perception. The use of elevated, reflective stakes at the ends of culverts would alert workers to their hidden presence, and allow the worker to avoid the hazard.

This incident occurred on a county road. At the time of this incident, the state transportation agency had a policy that specified the use of marker posts at the ends of culverts on state highways. Adoption of this policy by local governments would alert all individuals who work in roadside ditches to the hazard of hidden culverts.